INFORMATION MANAGEMENT ELECTRONIC NEWS LETTER

"Improving Customer Awareness through better Communications"

Vol 2 Rel 5 **February 2001**

SECURE ELECTRONIC MAIL – How Safe Are You?

Our customers have asked many questions concerning the use of electronic mail, both government as well as private use, and how secure it is to share information? This article addresses what is the meaning of secure electronic mail, some of the measures taken to safeguard the information it contains, and what you can do to protect your email.

What is Secure E-Mail?

Secure electronic mail is electronic communication which guarantees messages arrive intact and unhampered in the intended recipient's inbox. If a message can be intercepted, the contents can and most likely will be tampered with. The process of intercepting electronic communication on public networks, such as the Internet, has been simplified. A party interested in viewing point to point e-mail can visit one of numerous news groups and hacking web sites for a full instruction set and tools to read your mail. The process has been documented perfectly, to the point that the 12 year old round the corner can easily read your latest business plan, innovation, stock trades and on-line banking transactions from the comfort of his or her bedroom. The number of Internet users with e-mail capabilities has surpassed 200,000,000 people. Given the explosion of Internet e-mail, it is shocking that security has only now become a major concern. The standard flavors of POP3 e-mail clients only offer a Data Encryption Standard (DES) of 40-Bits. A 40-Bit encryption level, for today's advanced hackers, offers virtually no protection. By contrast the military uses a 4096-Bit DES encryption level that is unshakable. At this point the best an average e-mail user can do is register and download a 128 Bit Security patch from their mail client provider's web site, which offers a much greater level of security, but is not hacker proof.

How is E-mail Encrypted?

MIME (**M**ultipurpose **I**nternet **M**ail **E**xtensions) is the most common method for transmitting non-text files via Internet e-mail, which was originally designed for ASCII text. MIME encodes the files by using one of two encoding methods and decodes it back to its original format at the receiving end. A MIME header is added to the file, which includes the type of data contained, and the encoding method used.

S/MIME (Secure MIME) is a version of MIME that adds RSA encryption (**R**ivest-**S**hamir-**A**dleman) a highly secure cryptography method by RSA Data Security, Inc., Redwood City, CA, (www.rsa.com) for secure transmission. S/MIME was introduced in 1996, and has emerged as the messaging industry's standard for secure e-mail. S/MIME utilizes Public Key Cryptography Standards (PKCS) to ensure cross-platform and multi-vendor compatibility. S/MIME has been, and continues to be widely adopted by the messaging industry.

S/MIME, like MIME, uses two cryptographic encoding methods that both utilize RSA (PKCS), a digital signature and a digital envelope. The digital signature provides some level of security but does not provide for privacy. To encrypt the message for privacy a digital envelope is used so that only the intended recipient can read the contents of the message. The message is not encrypted using RSA, but with encryption algorithms such as DES or RC5 (The latest in a family of secret key cryptographic methods developed by RSA Data Security, Inc).

United States Government Plans

The pending "Cyberspace and Electronic Security Act" sponsored by the Clinton Administration will allow the FBI unlimited access to private e-mail at their discretion. The FBI would not even require a search warrant. Circumventing Fourth Amendment Search and Seizure standards will viably allow the government access to all third party encryption algorithms and keys. If this Act passes successfully through Congress, a user's e-mail will never be safe from prying eyes.

How do you protect your E-mail?

- Verify that your Internet Service Provider Supports S/MIME. If not, ask when they will. Chances are high that S/MIME is supported (probability 80%). If your ISP has no intention of implementing S/MIME, look for a new ISP.

- If you are running your own e-mail server, implement S/MIME, even if you choose to go with a third party security product.

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- Take advantage of 128-Bit DES encryption levels for mail clients and Internet browsers. Be proactive in your own security, and either download the patches or contact your vendor immediately.

- Limit or discontinue the amount of sensitive material being transmitted over the Internet. If the material you are transmitting is entirely confidential, you are best off utilizing a postal service.

More information will be provided on this topic as technology evolves.

ENTERPRISE INFORMATION PORTALS – What are they? What is some of the ingredients that go into developing a EIP?

The idea of a portal is not new — at least in Internet terms. It's a tool or service that brings information together and opens it up to a wide audience. Add some personalization and you've got something not much different than Yahoo! — one of the most popular portals on the planet.

But the term "Enterprise Information Portal" (EIP) causes confusion. This is most likely due to government and industry hype - the attempt by various players to define EIP according to their own product offerings.

For the purpose of this discussion, we will define EIP simply and broadly to mean *a secure, Web-based interface that provides a single point of integration for and access to information, applications and services for all people involved in the enterprise — including employees, partners, suppliers and customers.*

While some in government and industry may differ in their conception of what an EIP should include (business intelligence, collaborative functionality, decision processing, content management, etc.), the argument is primarily academic. Nevertheless, conflicting understandings of what constitutes an EIP exist. This stems in part from the fact that so many different kinds of suppliers with different backgrounds come at EIP from different directions.

Some organizations / companies have entered the EIP marketplace with backgrounds in Data Warehousing and Analytical Applications (Brio, Business Objects, Hummingbird, etc.). This is a logical migration. Such industry sectors as Data Mining and OLAP lead to Business Intelligence — which for many is a leading benefit of any EIP solution.

This is also a natural migration path. As application servers increasingly become players attempting to increase functionality by placing disparate products and solutions on top of the app server — marketing the package as one overreaching offering. The next logical step is to integrate it all with an EIP.

To confuse matters further — there exists another subset of prominent companies who, while not explicitly offering EIP products, provide comprehensive e-business solutions that address many of the issues that Enterprise Information Portals claim to solve (Siebel Systems, ATG, BEA, Allaire, HP/Bluestone, Microsoft, etc.). These companies offer products that can manage content management, personalization, e-business transactions, etc. Developers building java-based enterprise solutions with BEA WebLogic, for example, have the tools to develop a Web-based interface that integrates information, applications and services — in other words they have the tools to build an EIP solution.

Naturally, any given EIP solution will emphasize the core competencies of the company producing it. We can expect Brio's Brio.Portal to stress the advantages of disseminating business intelligence throughout the enterprise. Likewise, we can expect a company like Broadvision — with a background in e-business — to stress EIP as the ultimate in business Webification.

All EIPs, then, are not created equal. What determines quality should be the degree to which a particular EIP succeeds at delivering functionality to a given enterprise. Ignoring vertical specific needs, the quality of an Enterprise Information Portal should include the following ingredients:

Integration. In many ways an EIP is really just an merger of software programs within the enterprise as well as data and services external to the enterprise — all of which are accessed from a single Web-based interface. A portal solution that solves this problem must integrate smart and deep. When it comes to portals, the interface is the easy

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part. The behind-the-scenes integration of data, applications and services is what defines true value.

Personalization. Users should be able to choose what appears on their window to the enterprise — within certain role-defined constraints.

Content management. Content management in the EIP context requires directory and indexing capabilities to automatically manage the ever-growing store of structured and unstructured data residing in data warehouses, Web sites, ERP systems, legacy applications, etc. Using meta data to define types of information, good content management can serve as the backbone for a system of corporate decision-making where business intelligence tools mine data and report findings back to key role-players in the enterprise.

Content management may also involve going outside the enterprise, employing crawlers that find pertinent data via the internet, incorporate it into existing systems, index it and deliver it to appropriate analysts, knowledge workers or decision-makers.

Business Intelligence. EIP without business intelligence (BI) is of little use to an enterprise trying to turn their corporate information into competitive advantage. Traditional business intelligence involves those tools and technologies that perform data warehousing, data mining, online analytical processing (OLAP), etc. EIPs can bring these tools to appropriate individuals scattered throughout the enterprise in an integrated manner.

Collaboration. One of the advantages of EIP is increased workflow productivity and interaction between and among employees, partners and suppliers. Collaborative functionality can range from tracking e-mail to developing workplace communities. Some EIPs might allow workers in different parts of the world to easily create virtual meeting rooms where they can conference by chat, voice or video communication.

A true EIP can be seen as a horizontal solution bringing together the vertical functionality of these portals and integrating it all into one system, accessible by all parties involved with the enterprise — employees, partners, suppliers and customers.

Integration: Integration capability is one of the differentiation factors in the EIP marketplace. Some vendors — who tend to stress their out-of-the-box portal solutions — address this issue with prepackaged and extensible adapters that go by a whole host of names (Gadgets, MiniApps, Portlets, E-Clips, etc.). While these adapters help deliver applications, information and services to the presentation layer of the portal, they do not necessarily achieve interoperability between and among applications spread throughout the enterprise.

One of the leading vendors in this regard is Plumtree Software. Their Corporate Portal uses Plumtree Portal GadgetsTM to deliver applications and content to the portal user. According to the corporate Web site, Plumtree has "established partnerships with over 60 systems integrators and 30 technology and content providers" — to develop Gadgets that embed "content and services from applications of every major class." Plumtree has also created a Web site that developers can access to download new Gadgets as partnerships grow.

Plumtree is not alone in providing these kinds of adapter libraries. Other vendors include Viador, Hummingbird, Sybase, DataChannel, SAP...

The level of integration that best serves an organization can only be decided on a case-by-case basis. Where the very notion of an EIP may face organizational skepticism, it may be best to start with an out-of-the-box solution that has the flexibility to grow as its value becomes apparent. And unless your enterprise is already fully dependent on a specific software vendor, beware of portal solutions that depend too heavily on proprietary application or e-business frameworks. This would be counter to the future direction of EIPs in general.

The future: The time is approaching when increased use of Web services will change the way EIPs are made and operate. Many EIPs are using XML to a great extent because of its ability to aid interoperability. With the standardization of SOAP and a growing level of comfort with distributed Web services, the very notion of applications and application servers is becoming increasingly abstracted. Due to the widespread adoption of workable Internet standards, traditional concerns over operating system interoperability are or have been overcome. Applications themselves will be pieced together by components or Web services to create individualized applications on an ad-hoc basis.

The Corps is moving out on trying frame its own portal solution. There will be a time when all of the business systems that we use to conduct day to day business will be integrated into a Corps portal – a single access point for obtaining corporate data, business knowledge needs, and collaborate with our colleagues and customers. The Army has its own portal: http://www.us.army.mil which has and

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continues to group in functionality as well as serve the Army community with a intelligent vehicle for collecting and disseminating information to the soldiers. IM will provide more information on the Corps Portal initiative as it become available.

TECHNICAL TERMS TO WORK WITH!

Business Intelligence: Business Intelligence is a popularized, umbrella term introduced by Howard Dresner of the GartnerGroup in 1989 to describe a set of concepts and methods to improve business decision making by using fact-based support systems. The term is sometimes used interchangeably with briefing books and executive information systems.

Business Process Portal: A process portal focuses on solving a particular business problem or manage a particular business function. Business Process Portals bring the right information to the right people at the right time to help them get their work done. A Business Process Portal is a type of Vertical Portal.

Collaborative Tools: Tools that enable sharing of knowledge across time and distance. These tools may enable both structured and free-flow sharing of knowledge and best practices. Transcripts of the use of these tools may be incorporated into a knowledge base for future use.

Content management: Technologies that allow the capture and management of explicit experience. It allows people to capture, codify, and organize experiences and ideas in central repositories. A more general term than data management, content management includes structured and unstructured data.

Corporate Knowledge Management: The process whereby knowledge seekers are linked with knowledge sources and knowledge is transferred.

Horizontal Portal: A portal which pulls together several vertical portals and which is standardized across an enterprise.

Portal A portal can be defined as software that provides access through a browser to a wide range of data stores – e-mail, data bases, analytical software, the Internet, billing and sales records, and other sources. A portal is different from other web pages in that a portal is customizable by the user as his needs and interests change.

Process portal: Software which focuses the user of the Portal to the explicit knowledge required to solve his/her particular problem, or deal with a particular situation or series of events. Changes Implicit Knowledge to Explicit Knowledge.

Vertical Portal: A vertical portal is a portal which serves a specific community of interest. An organization may have several vertical portals, but will probably have only one Horizontal portal.

Suggestions

If you would like to make a suggestion on how we can improve our services or would like to make a suggestion on ways to improve this letter please fill out our suggestion form. Click here ✉